

### **Amendments to the Claims**

This listing of claims will replace all prior versions and listings of claims in the application:

#### **Listing of Claims:**

Claims 1-8 (canceled)

Claim 9 (currently amended): A method for producing silicon nitride films by thermal chemical vapor deposition comprising:

- i) feeding a trisilylamine gas and an ammonia gas into a chemical vapor deposition reaction chamber that contains at least one substrate;
- ii) forming a silicon nitride film on a said at least one substrate by reacting said gases under predetermined temperature and pressure conditions; and
- iii) providing a flow rate ratio between said ammonia gas to said trisilylamine gas fed in said reaction chamber equal to or greater than about 10.

Claim 10 (previously presented): The method according to Claim 9, wherein the predetermined temperature conditions for the reaction between said trisilylamine and said ammonia gas is set at a temperature which is equal to or lower than about 600°C.

Claim 11 (currently amended): A method for producing silicon nitride films by thermal chemical vapor deposition comprising:

- i) feeding a trisilylamine gas and an ammonia gas into a chemical vapor deposition reaction chamber that contains at least one substrate;
- ii) forming a silicon nitride film on said at least one substrate by reacting said gases under predetermined temperature and pressure conditions; and
- iii) setting the predetermined temperature of the reaction between said trisilylamine and said ammonia gas at a value equal to or lower than 600°C.

Claim 12 (currently amended): A method for producing silicon oxynitride films by thermal chemical vapor deposition comprising:

- i) feeding a trisilylamine gas, an ammonia gas, and an oxygen-containing gas into a chemical vapor deposition reaction chamber that contains at least one substrate; and
- ii) forming a silicon oxynitride film on said at least one substrate by reacting said gases under predetermined temperature and pressure conditions, wherein the predetermined temperature is equal to or lower than 600°C.

Claim 13 (previously presented): The method according to Claim 12, wherein said oxygen-containing gas is at least one component selected from the group consisting of: O<sub>2</sub>, O<sub>3</sub>, H<sub>2</sub>O, H<sub>2</sub>O<sub>2</sub>, NO, NO<sub>2</sub>, and N<sub>2</sub>O.

Claim 14 (currently amended): A method for producing silicon oxynitride films by thermal chemical vapor deposition, comprising:

- i) feeding a trisilylamine gas and at least one additional gas containing both oxygen and nitrogen into a chemical vapor deposition reaction chamber that contains at least one substrate; and
- ii) forming a silicon oxynitride film on said at least one substrate by reacting said gases under predetermined temperature and pressure conditions, wherein the predetermined temperature is equal to or lower than 600°C.

Claim 15 (previously presented): The method according to Claim 14, wherein said oxygen and nitrogen gas is at least one component selected from the group consisting of NO, NO<sub>2</sub>, and N<sub>2</sub>O.

Claim 16 (previously presented): The method according to Claim 9, wherein said flow rate ratio is greater than about 20.

Claim 17 (currently amended): A method for producing silicon nitride films by thermal chemical vapor deposition comprising:

- i) feeding at least one trisilylamine gas and at least one ammonia gas into a chemical vapor deposition reaction chamber that contains at least one substrate;

- ii) forming at least one silicon nitride film on a said at least one substrate by reacting said gases under predetermined temperature and pressure conditions; and
- iii) providing a flow rate ratio between at least one said ammonia gas to at least one said trisilylamine gas fed in said reaction chamber equal to or greater than about 10.

Claim 18 (previously presented): The method according to Claim 17, wherein the predetermined temperature conditions for the reaction between at least one said trisilylamine and at least one said ammonia gas is set at a temperature which is equal to or lower than about 600°C.

Claim 19 (currently amended): A method for producing silicon nitride films by thermal chemical vapor deposition comprising:

- i) feeding at least one trisilylamine gas and at least one ammonia gas into a chemical vapor deposition reaction chamber that contains at least one substrate;
- ii) forming at least one silicon nitride film on said at least one substrate by reacting said gases under predetermined temperature and pressure conditions; and
- iii) setting the predetermined temperature of the reaction between at least one said trisilylamine and at least one said ammonia gas at a value equal to or lower than 600°C.

Claim 20 (currently amended): A method for producing silicon oxynitride films by thermal chemical vapor deposition comprising:

- i) feeding at least one trisilylamine gas, at least one ammonia gas, and at least one oxygen-containing gas into a chemical vapor deposition reaction chamber that contains at least one substrate; and
- ii) forming at least one silicon oxynitride film on said at least one substrate by reacting said gases under predetermined temperature and pressure conditions, wherein the predetermined temperature is equal to or lower than 600°C.

Claim 21 (previously presented): The method according to Claim 20, wherein said oxygen-containing gas is at least one component selected from the group consisting of:  $O_2$ ,  $O_3$ ,  $H_2O$ ,  $H_2O_2$ ,  $NO$ ,  $NO_2$ , and  $N_2O$ .

Claim 22 (currently amended): A method for producing silicon oxynitride films by thermal chemical vapor deposition, comprising:

- i) feeding at least one trisilylamine gas and at least one additional gas containing both oxygen and nitrogen into a chemical vapor deposition reaction chamber that contains at least one substrate; and
- ii) forming at least one silicon oxynitride film on said at least one substrate by reacting said gases under predetermined temperature and pressure conditions, wherein the predetermined temperature is equal to or lower than  $600^{\circ}C$ .

Claim 23 (previously presented): The method according to Claim 22, wherein said oxygen and nitrogen gas is at least one component selected from the group consisting of  $NO$ ,  $NO_2$ , and  $N_2O$ .

Claim 24 (previously presented): The method according to Claim 17, wherein said flow rate ratio is greater than about 20.

Claim 25 (currently amended): A method for producing silicon nitride-containing films by thermal chemical vapor deposition comprising:

- i) feeding a trisilylamine-containing gas and an ammonia-containing gas into a chemical vapor deposition reaction chamber that contains at least one substrate;
- ii) forming a silicon nitride-containing film on said a substrate by reacting said gases under predetermined temperature and pressure conditions; and
- iii) providing a flow rate ratio between an ammonia-containing gas to a trisilylamine-containing gas fed in said reaction chamber equal to or greater than about 10.

Claim 26 (previously presented): The method according to Claim 25, wherein the predetermined temperature conditions for the reaction between a

trisilylamine-containing gas and an ammonia-containing gas is set at a temperature which is equal to or lower than about 600°C.

Claim 27 (currently amended): A method for producing silicon nitride-containing films by thermal chemical vapor deposition comprising:

- i) feeding a trisilylamine-containing gas and an ammonia-containing gas into a chemical vapor deposition reaction chamber that contains at least one substrate;
- ii) forming a silicon nitride-containing film on said at least one substrate by reacting said gases under predetermined temperature and pressure conditions; and
- iii) setting the predetermined temperature of the reaction between a trisilylamine-containing gas and an ammonia-containing gas at a value equal to or lower than 600°C.

Claim 28 (currently amended): A method for producing silicon oxynitride-containing film by thermal chemical vapor deposition comprising:

- i) feeding a trisilylamine-containing gas, an ammonia-containing gas, and an oxygen-containing gas into a chemical vapor deposition reaction chamber that contains at least one substrate; and
- ii) forming a silicon oxynitride-containing film on said at least one substrate by reacting said gases under predetermined temperature and pressure conditions, wherein the predetermined temperature is equal to or lower than 600°C.

Claim 29 (previously presented): The method according to Claim 28, wherein said oxygen-containing gas is at least one component selected from the group consisting of: O<sub>2</sub>, O<sub>3</sub>, H<sub>2</sub>O, H<sub>2</sub>O<sub>2</sub>, NO, NO<sub>2</sub>, and N<sub>2</sub>O.

Claim 30 (currently amended): A method for producing silicon oxynitride-containing films by thermal chemical vapor deposition, comprising:

- i) feeding a trisilylamine-containing gas and at least one additional gas containing both oxygen and nitrogen into a chemical vapor deposition reaction chamber that contains at least one substrate; and

- ii) forming a silicon oxynitride-containing film on said at least one substrate by reacting said gases under predetermined temperature and pressure conditions, wherein the predetermined temperature is equal to or lower than 600°C.

Claim 31 (previously presented): The method according to Claim 30, wherein said oxygen-containing and nitrogen-containing gas is at least one component selected from the group consisting of NO, NO<sub>2</sub>, and N<sub>2</sub>O.

Claim 32 (previously presented): The method according to Claim 25, wherein said flow rate ratio is greater than about 20.

Claim 33 (currently amended): A method for producing silicon nitride-containing films by thermal chemical vapor deposition comprising:

- i) feeding at least one trisilylamine-containing gas and at least one ammonia-containing gas into a chemical vapor deposition reaction chamber that contains at least one substrate;
- ii) forming at least one silicon nitride-containing film on a said at least one substrate by reacting said gases under predetermined temperature and pressure conditions; and
- iii) providing a flow rate ratio between at least one ammonia-containing gas to at least one trisilylamine-containing gas fed in said reaction chamber equal to or greater than about 10.

Claim 34 (previously presented): The method according to Claim 33, wherein the predetermined temperature conditions for the reaction between at least one trisilylamine-containing gas and at least one ammonia-containing gas is set at a temperature which is equal to or lower than about 600°C.

Claim 35 (currently amended): A method for producing silicon nitride-containing films by thermal chemical vapor deposition comprising:

- i) feeding at least one trisilylamine-containing gas and at least one ammonia-containing gas into a chemical vapor deposition reaction chamber that contains at least one substrate;

- ii) forming at least one silicon nitride-containing film on said at least one substrate by reacting said gases under predetermined temperature and pressure conditions; and
- iii) setting the predetermined temperature of the reaction between at least one trisilylamine-containing gas and at least one ammonia-containing gas at a value equal to or lower than 600°C.

Claim 36 (currently amended): A method for producing silicon oxynitride-containing films by thermal chemical vapor deposition comprising:

- i) feeding at least one trisilylamine-containing gas, at least one ammonia-containing gas, and at least one oxygen-containing gas into a chemical vapor deposition reaction chamber that contains at least one substrate; and
- ii) forming at least one silicon oxynitride-containing film on said at least one substrate by reacting said gases under predetermined temperature and pressure conditions.

Claim 37 (previously presented): The method according to Claim 36, wherein said oxygen-containing gas is at least one component selected from the group consisting of: O<sub>2</sub>, O<sub>3</sub>, H<sub>2</sub>O, H<sub>2</sub>O<sub>2</sub>, NO, NO<sub>2</sub>, and N<sub>2</sub>O.

Claim 38 (currently amended): A method for producing silicon oxynitride-containing films by thermal chemical vapor deposition, comprising:

- i) feeding at least one trisilylamine-containing gas and at least one additional gas containing both oxygen and nitrogen into a chemical vapor deposition reaction chamber that contains at least one substrate; and
- ii) forming at least one silicon oxynitride-containing film on said at least one substrate by reacting said gases under predetermined temperature and pressure conditions, wherein the predetermined temperature is equal to or lower than 600°C.

Claim 39 (previously presented): The method according to Claim 38, wherein said oxygen-containing and nitrogen-containing gas is at least one component selected from the group consisting of NO, NO<sub>2</sub>, and N<sub>2</sub>O.

Claim 40 (previously presented): The method according to Claim 33, wherein said flow rate ratio is greater than about 20.